

ABSTRACT OF THE DISCLOSURE

An apparatus for detection and measurement of trace species in a gas or liquid sample. A ring down cell formed from a fiber optic ring is exposed to the sample gas or liquid. A coherent source emits radiation into the fiber optic ring, which in turn is received at an output thereof. The fiber optic ring has a portion thereof, between the input and output, exposed to the sample gas or sample liquid. A processor is coupled to the receiver and determines the level of trace species in the gas or liquid sample based on the rate of decay of the radiation within the fiber optic ring.